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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,817	11/24/2003	Abhay Sudhakarrao Kant	133918-1	5358

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EXAMINER	
LAU, TUNG S	

ART UNIT	PAPER NUMBER
2863	

MAIL DATE	DELIVERY MODE
05/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Advisory Action Before the Filing of an Appeal Brief	Application No. 10/720,817	Applicant(s) KANT ET AL.	
	Examiner Tung S. Lau	Art Unit 2863	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 07 May 2007 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:
   a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
   b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

   Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).
4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
   The status of the claim(s) is (or will be) as follows:
   Claim(s) allowed: _____.
   Claim(s) objected to: _____.
   Claim(s) rejected: *1,2, 3,4, 51, 52, 54-58 and 60-75*.
   Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☐ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: _____.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). _____
13. ☒ Other: See next page.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 05/07/2007 have been fully considered but they are not persuasive.

A. Applicant argues in the argument that the prior art fail to show "rub between tip portion of blades and corresponding seal portions" (remarks page 7, lines 8-10, page 9, lines 10-12, page 11, lines 20-22, page 12, lines 10-11, page 14, lines 5-8).

Reminds the applicants that words in patent claims are given their ordinary meaning in the usage of the field of the invention, unless the text of the patent makes clear that a word was used with a special meaning; Phillips v. AWH Corp., *>415 F.3d 1303, 1313<, 75 USPQ2d 1321>, 1326< (Fed. Cir. 2005) (en banc). Sunrace Roots Enter. Co. v. SRAM Corp., 336 F.3d 1298, 1302, 67 USPQ2d 1438, 1441 (Fed. Cir. 2003); Brookhill-Wilk 1, LLC v. Intuitive Surgical, Inc., 334 F.3d 1294, 1298 67 USPQ2d 1132, 1136 (Fed. Cir. 2003), and where an explicit definition is provided by the applicant for a term, that definition will control interpretation of the term as it is used in the claim. Toro Co. v. White Consolidated Industries Inc., 199 F.3d 1295, 1301, 53 USPQ2d 1065, 1069 (Fed. Cir. 1999), See MPEP 2111 [R-5](III). In this case, the applicants fail to present any specific definition and USPTO personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. In re Morris, 127

F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997), limitations appearing in the specification but not recited in the claim are not read into the claim. E-Pass Techs., Inc. v. 3Com Corp., 343 F.3d 1364, 1369, 67 USPQ2d 1947, 1950 (Fed. Cir. 2003).

A prior art reference anticipates the subject of a claim when the reference discloses every feature of the claimed invention, either explicitly or inherently (see Hazani v. U.S. Int'l Trade Com'n, 126 F.3d 1473, 1477, 44 USPQ2d 1358, 1361 (Fed. Cir. 1997) and RCA Corp. v. Applied Digital Data Systems, Inc., 730 F.2d 1440, 1444, 221 USPQ 385,388 (Fed. Cir. 1984)); however, the law of anticipation does not require that the reference teach what the appellants are claiming, but only that the claims on appeal "read on" something disclosed in the reference (see Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 772, 218 USPQ 781,789 (Fed. Cir. 1983).

Sato discloses:

ABSTRACT:

A method and apparatus for detecting the occurrence of rubbing in a rotary machine, in which at least one acoustic sensor is mounted on at least the rotor part or the stator part of the rotary machine, and the output signal from the acoustic sensor is detected and then filtered to extract a frequency component having a frequency substantially equal to the rotational frequency of the rotary machine, so as to detect the occurrence of rubbing in the rotary machine as early as possible and also to locate the source of the rubbing. Even when the occurrence of abnormal metal-to-metal contact at a bearing of the rotary machine is detected, it is discriminated from rubbing so that the occurrence of the rubbing can be reliably detected.

BRIEF SUMMARY:

(1) This invention relates to a method and apparatus for detecting the occurrence of so-called rubbing in a rotary machine, such as a steam turbine or a turbine-driven generator, due to mechanical contact of its rotor with its stator during rotation of the rotary machine.

DETAILED DESCRIPTION:

(1) The present invention is based on the finding that, when an acoustic sensor is mounted on a bearing of a rotary machine, such as a steam turbine or a turbine-driven generator, to sense a high-frequency acoustic signal transmitted to the bearing, and the output signal from the acoustic sensor is detected by a detector and is then subjected to frequency analysis, a frequency component having a frequency equal to that of the rotational speed (the number of revolutions) or rotational frequency of the rotary machine provides the principal component of the high-frequency acoustic signal in the event of the occurrence of rubbing between the rotor and stator of the rotary machine. Therefore, when the detector output signal is passed through a band-pass filter controlled by the rotational frequency of the rotary machine, a rubbing signal having a waveform analogous to the sinusoidal waveform can be extracted when rubbing is present, so that the presence or absence of rubbing can be easily detected. According to the present invention, a plurality of such sensors are disposed on a plurality of bearings respectively of the rotary machine so as to detect the location of the rubbing, if any, occurring between the rotor and stator of the rotary machine by detecting and filtering the output signals from the sensors. Further, according to the present invention, even when an abnormal acoustic signal such as a noise signal may be simultaneously generated due to the occurrence of abnormal metal-to-metal contact at any one of the bearings, the occurrence of rubbing can be reliably detected by the provision of means for discriminating between the rubbing signal and the noise signal.

col. 8, starting lines 4:

In the second embodiment, the acoustic sensor 22 sensing the AE signal is installed on the bearing 21. A modification of the second embodiment is shown in FIG. 10. Referring to FIG. 10, an acoustic sensor (an AE sensor) AE is installed in the internal bore H of the rotary shaft S of the rotor 20, and a transmitter unit TM which is an integral assembly of a transmitter module and a power source is disposed together with a transmitting antenna AT in the bore H in the vicinity of the AE sensor AE. In the event of generation of an abnormal acoustic signal P, such an acoustic signal is transmitted in the form of radio wave from the transmitting antenna AT to be received by a receiving antenna AR. An FM receiver 40 is connected to the receiving antenna AR, and a signal processor and display unit 42 is connected to the FM receiver 40 for the purpose of processing and displaying the abnormal acoustic signal P.

col. 6, starting lines 61:

In the event of occurrence of abnormal metal-to-metal contact between the rotary shaft S of the rotor 20 and the bearing 21, the ASD becomes higher throughout the entire frequency range as described already, and the level of the output voltage from the comparator circuit 34 becomes higher as shown in FIG. 9(VII).

FIG. 8

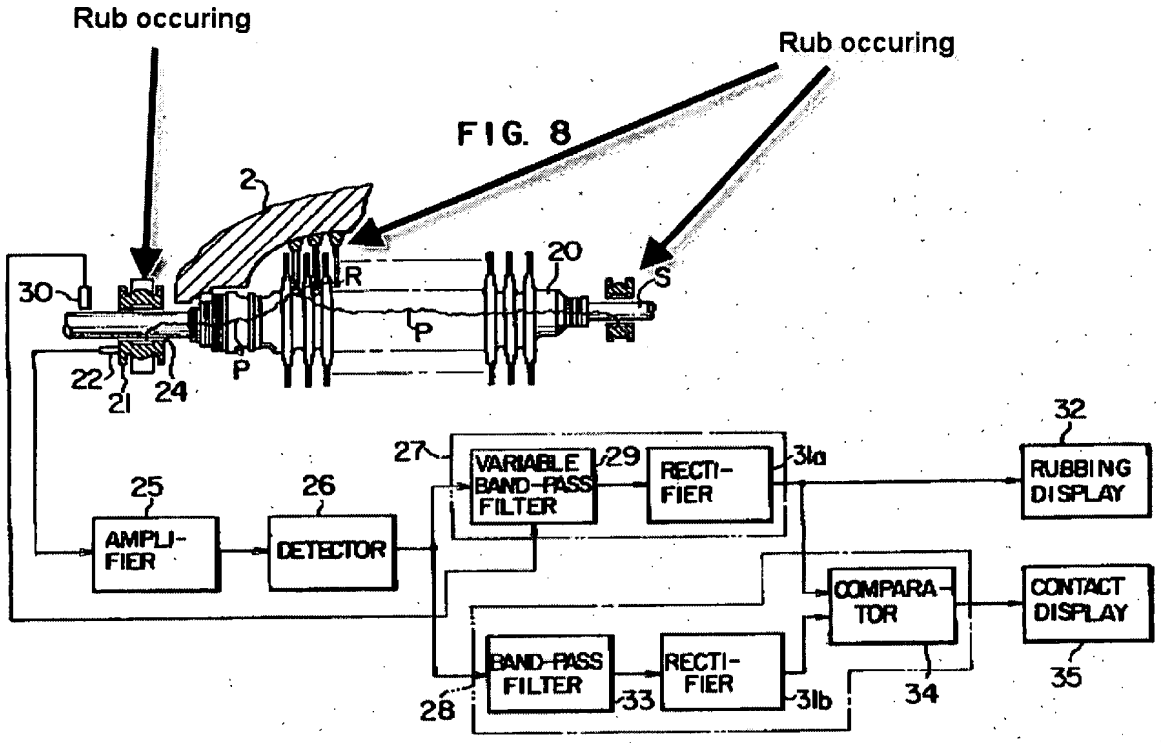
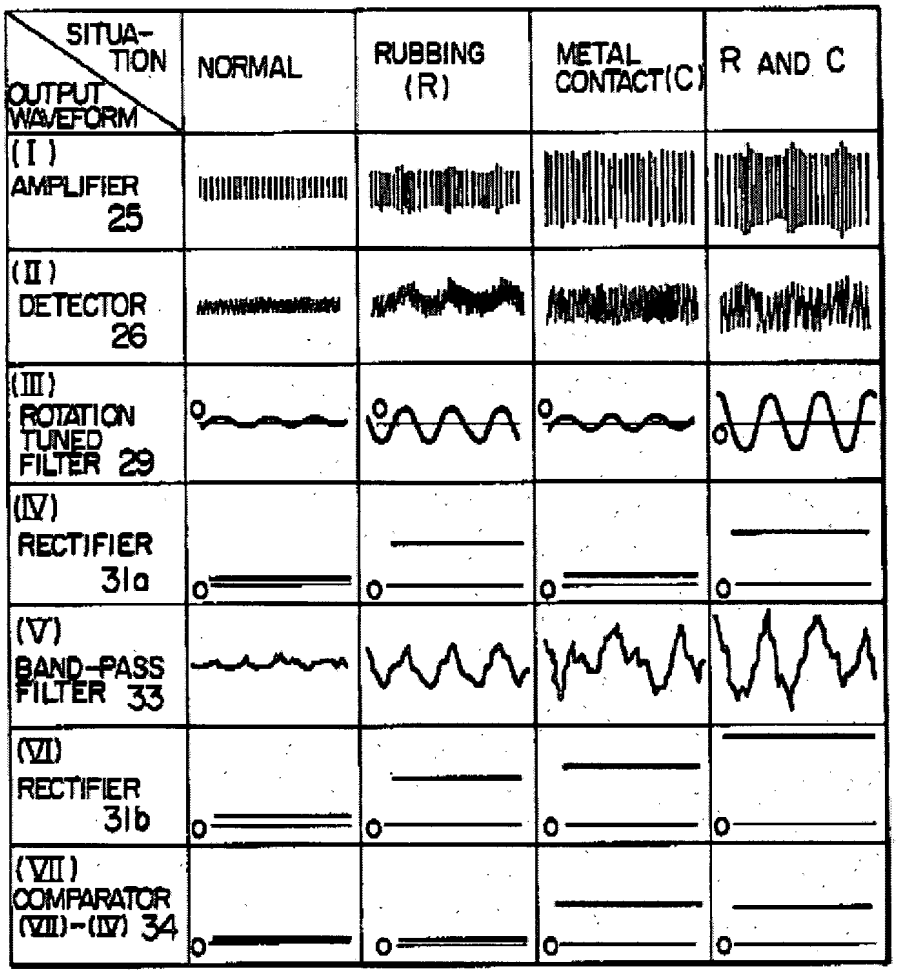


FIG. 9


SITUATION
OUTPUT WAVEFORM
NORMAL
RUBBING (R)
METAL CONTACT(C)
R AND C
(I) AMPLIFIER 25
(II) DETECTOR 26
(III) ROTATION TUNED FILTER 29
(IV) RECTIFIER 31a
(V) BAND-PASS FILTER 33
(VI) RECTIFIER 31b
(VII) COMPARATOR (VII)-(IV) 34

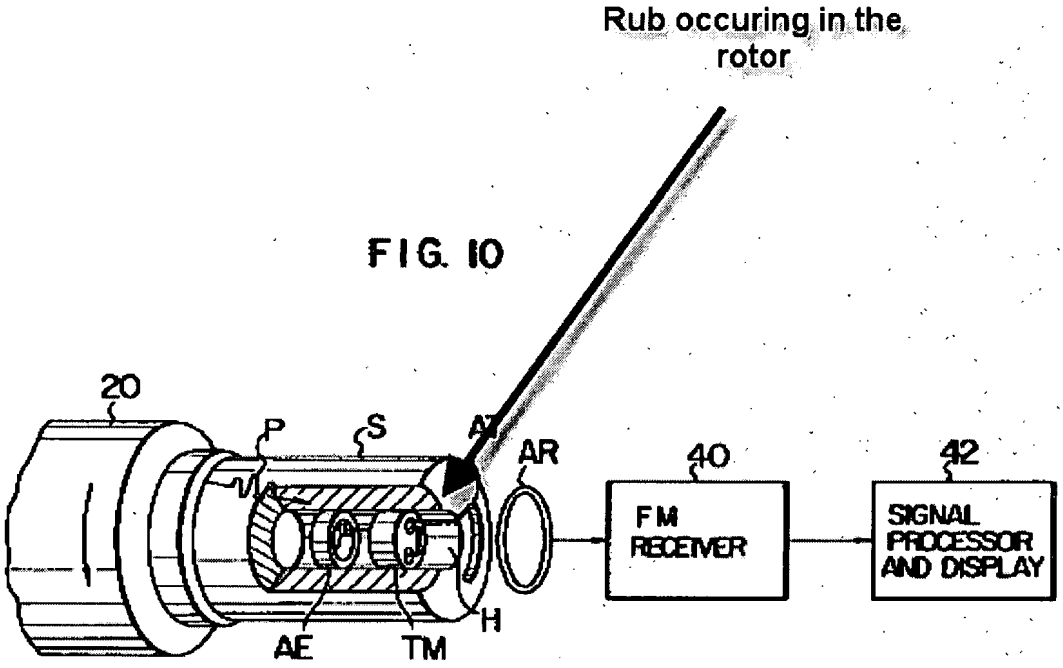


FIG. 10

The above evidence from Sato disclosure read on to "rub between tip portion of blades and corresponding seal portions"

(note: the bearing also is a 'seal portion')

B. Applicant also argues in the argument that the prior art fail to show "plurality of blades disposed on the rotor and corresponding seal portions disposed on the stator" (remarks page 13, lines 4-6).

The above evidence from Sato disclosure read on to "plurality of blades disposed on the rotor and corresponding seal portions disposed on the stator".

Contact information

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung S. Lau whose telephone number is 571-272-2274. The examiner can normally be reached on M-F 9-5:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 571-272-2269. The fax phone numbers for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tung S. Lau
AU 2863, Patent examiner
May 17, 2007